



Tonka Talk

Tonka Equipment Company Newsletter

Fall 2009

President's Corner

By Tom Davis

Utility owners and consultants have been busy!

Starting in June of this year, Tonka began seeing procurement bid documents reflecting the new rules and regulations of the "American Recovery and Reinvestment Act" of 2009, (or ARRA for short). This is the "Stimulus Package" that was promulgated by Congress to help spur infrastructure improvement and stimulate job creation through funding of State Revolving Loans and other federal agencies.

Green Technology: Saving Water

One provision of ARRA encourages the use of Green Technologies – and perhaps the most important aspect of green technology at water treatment facilities is the conservation of our scarce and precious water resources. Consultants and owners have found that Tonka's proven Simul-Wash™ system will do just that – save over half of the water that is typically wasted in the backwashing of media filters. This also can translate into smaller footprints for construction (and smaller plant carbon footprints as well) by greatly reducing the backwash waste handling facilities at these treatment plants.

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Happy Birthday – Simul-Wash™ Turns 30

by Todd Butz

Three years ago Tonka proudly celebrated its fiftieth year in the potable water business. 2009 marks another significant anniversary at Tonka - the thirtieth anniversary of our revolutionary Simul-Wash™ combined air/water backwash system.

How it all began: In the late 1970's Tonka developed a unique baffled trough coupled with a dual-rate process to allow for a combined air/water filter backwash cycle to operate indefinitely, unlimited by filter geometry. The result was the Simul-Wash™ system – achieving better cleaning of the filter media, while using half the water. Truly a win-win situation! Since that time, the simultaneous air/water backwash method has been verified by the AWWA Research Foundation as the most effective method of backwashing a granular media filter. In addition, Tonka's Simul-Wash™ system has been proven over and over again in full-scale applications to use less than half the amount of water as conventional water-only, or air-followed-by-water backwash methods.

Simul-Wash debuted in

Aurora, MN: In 1979, Tonka installed our first Simul-Wash™ filters in the town of Aurora, MN. Those two filters are still in service today, and in fact, the plant underwent a recent expansion that included adding a third identical filter. In 30 years of operation, Simul-Wash™ has saved the Town of Aurora over 55 million gallons of water!

Guaranteed Results: Tonka is proud to have pioneered the combined air/water backwash Simul-Wash™ system, and we continue to offer Simul-Wash™ as the best proven filter backwash system available today. Along with Simul-Wash™ comes guaranteed results:

- Guaranteed not-to-exceed backwash water usage.
- The most stringent media loss guarantee in the business (less than 1" per year).

Environmental Impact:

With over 400 Simul-Wash™ installations, Tonka leads the industry in water saved! ♦



Aurora, MN – Tonka's Simul-Wash™ Serial No. 0001, circa 1979 and new filter installed 2009 (top)

Arsenic in the Southwest

By TJ Stroebel

Arsenic continues to be a concern throughout the Southwest as many communities have levels just above the maximum contaminant limit of 10 micrograms per liter ($\mu\text{g/L}$). These cities are looking at Tonka's co-precipitation filtration process paired with Simul-Wash™ for an efficient, cost-effective way to remove arsenic, while conserving water and reducing operating costs.

One of Tonka's current arsenic projects in the Southwest is a 10.8 MGD plant with a projected savings of 1.2 billion gallons of water over an estimated 30 years.

process in that region. As the iron and arsenic are filtered out in the media bed, periodic backwashing is required. Simul-Wash™ employs a sustained air and water backwash at sub-fluidized water rates which provides optimal cleaning of the filter, while using about half as much water as a conventional backwash. Tonka is currently involved in several arsenic projects in the Southwest, one of which is a 10.8 MGD plant that has a projected savings of 1.2 billion gallons of water over the estimated 30-year plant life.



iron for arsenic absorption can easily and safely be added in the form of ferric chloride. The process of adding chemicals can be as simple as adding ferric chloride and a trace of chlorine to oxidize the arsenic. PH reduction can increase the efficiency of the process, and we've found that in some waters, arsenic removal requires the addition of a polymer or filter aid.

Best Available Technology (BAT)

It should be noted that Tonka's iron co-precipitation process is a USEPA Best Available Technology (BAT) for arsenic removal, and Tonka has proven it to be effective and cost-efficient across the country. Tonka has a variety of equipment types available that will accommodate this process and meet the specific needs and requirements of any job. ♦

The process

Iron is removed from water by oxidation, precipitation and filtration, a process where Tonka has particular expertise and rich history. Arsenic, in its oxidized state, will bind and co-precipitate with iron, which can then be removed through conventional media filtration. Many plants originally designed for only iron removal may be already removing arsenic, which co-precipitates with existing raw water iron. In the Southwest where iron is not typically found in raw water,

Pilot study proves the process

Recent pilot studies in the Southwest have reduced raw water arsenic levels from 39 $\mu\text{g/L}$ down to 1 $\mu\text{g/L}$ and lower. One fact is certain: every water is different, which is why Tonka recommends conducting a pilot study to optimize the chemical requirements.

Water savings with Simul-Wash™

Nowhere is water conservation more important than in the Southwest, which makes Tonka's Simul-Wash™ a critical feature in the treatment



To all our customers:

**Tonka Equipment Company,
as a US manufacturer of
water treatment systems,
complies with the
"Buy American" provisions
of the American Recovery
and Re-Investment Act
(ARRA) of 2009.**

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Cost Effective, Green and Customized

Tonka also can offer cost-effective and green solutions to other water treatment issues, including iron, manganese, radium, dissolved organic removal, and membranes and membrane pre-treatment. We can help you tailor a customized solution to your water treatment needs that takes advantage of our green technology and gives you and your client a "system responsible" manufactured approach. We never fragment project responsibility, and we only propose technology that is proven, green and cost-effective – something you can depend on from Tonka. ♦

ASME Stamp – The Mark of Excellence

By John Berrigan

Setting a high standard

Since 1916, the water treatment industry has turned to the American Society of Mechanical Engineers (ASME) to set the standards in manufacture of pressure vessels.

Having an ASME Stamp affixed to your vessel is the only way to verify compliance with the ASME code, and insure it complies with the stringent design and manufacturing standards of ASME. Utilization of the ASME Code Symbol Stamp also means your vessel complies with the laws and regulations in all 50 states, and all provinces of Canada – a true “universal standard.”

The ASME Code Stamp provides water utilities with high confidence that their vessels conform to established industry safety standards, regardless of what local, state or federal codes may require.

Safety is the issue

Engineers everywhere rely on the ASME Code Stamp for assurance that pressure vessels will be safe, durable, and constructed by properly trained and skilled personnel. Specifying the ASME Code means that operators and owners don't need to worry about manufacturing, weld designs, material selection or vessel integrity. ASME stands behind every tank bearing the ASME Stamp – and stakes their nearly 100-year reputation on it.

Tonka's commitment

Tonka is strongly committed to manufacturing pressure vessels at ASME Certified shops. Today it is more important than ever to have your pressure vessels manufactured within ASME Code stamp – the Mark of Excellence. ♦

¹Author: Richard P. Beverly. Pages 274 – 275 excerpted.

Recommended by AWWA

As described in the AWWA publication *Filter Troubleshooting and Design Handbook*¹

“It is recommended that the tank shell and heads be designed and constructed according to Section IX of the ASME Boiler Code. The code requires a testing and inspection process that helps ensure the integrity and serviceability of the filter. Tanks designed, tested, and inspected according to this process will have a permanent metal tag or code stamp affixed to a bracket on the side of the tank.”

The book goes on to say, “...for municipal and industrial use, code tanks are recommended for safety purposes.”



Maintenance Tip - *New technology is available for your water plant*

By Jeff Emerson

As part of Tonka's Superior Customer Service initiative, it's our job to keep abreast of the constantly changing technologies and their impact on supplier equipment lines. With new technologies comes obsolescence of older components and systems. At some point in the equipment cycle manufacturers may discontinue technical support of older models and quit making replacement parts for them.

Examples:

- Some of the original Omron brand programmable logic controllers are no longer supported.
- Liquid level controllers for bubbler style level controls are no longer available.

Tonka's intent is to be proactive and provide a timely and cost-efficient change-out for our customers who have obsolete controls, before a crisis occurs. Tonka can supply a replacement PLC which is preprogrammed and ready for installation in the same location as the existing obsolete equipment. We also offer a complete change out for a bubbler style level control system to a capacitance-type sensor with controller, while still using your existing pneumatic valve positioner.


Both of the above systems will provide a seamless transition as well as the knowledge that service and support are available from Tonka when you need it.

Contact us on what Tonka has to offer to upgrade your existing equipment.
Our service department number is 800-530-1887. ♦



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The logo for Tonka Water Treatment Systems, featuring the word "TONKA" in a large, bold, blue font, with "WATER TREATMENT SYSTEMS" in a smaller, blue font above it, all enclosed in a blue speech bubble shape.